



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/574,726	05/18/2000	Geoffrey B. Rhoads	60195	9782
23735 7590 04/15/2008 DIGIMARC CORPORATION 9405 SW GEMINI DRIVE BEAVERTON, OR 97008				
EXAMINER AGWUMEZIE, CHARLES C				
ART UNIT 3621		PAPER NUMBER		
MAIL DATE 04/15/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

09/574,726

Applicant(s)

RHOADS, GEOFFREY B.

Examiner

CHARLES C. AGWUMEZIE

Art Unit

3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 26-29 and 91-94 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 26-29, and 91-94 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-144a or PTO-854a)
Paper No(s)/Mail Date see continuation
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

5/1/03; 5/24/04; 7/18/06; 01/04/07; 02/01/08

DETAILED ACTION

Acknowledgments

1. Applicants' amendment filed on July 5, 2007 is acknowledged. Accordingly claims 1-14, 26 -29, and 91-94 remain pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1, 8 and 11**, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed contains no support for "the imperceptible modification adaptively changing values of the perceptible parts of the visual or audio signals by a varying amount that depends on the values of the perceptible parts" This is the first instance of this invention that is unrelated and unsupported by the original filing. Cancellation of new matter is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1, 8 and 11**, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specially it would be unclear to one of ordinary skill in the art to understand what Applicant meant by "the imperceptible modification adaptively changing values of the perceptible parts of the visual or audio signals by a varying amount that depends on the values of the perceptible parts" How is this process performed and what values are being changed in the performance of this process?

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-4, 6-9, 11-14, and 91-94**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Wie (herein after "Van Wie") U.S. Patent No. 6,240,185 B1.

8. As per **claims 1 and 11**, Van Wie discloses a method of distributing digital source material comprising:

passing the encoded source material (fig. 1A DVD 104) to a destination through at least one intervening steganographic decoder process (fig. 1A, media player with

steganographic decoder; fig. 3, steganographic decoder), the encoded sources material comprising plural-bit auxiliary data steganographically embedded in the digital sources material, the digital sources material including visual or audio signals that are perceptible (col. 11, lines 45-50, sound or music) when the output from the device, and the visual or audio signals including imperceptible modifications to perceptible parts of the visual or audio signals to embed the plural bit auxiliary data in the perceptible parts in a manner that is imperceptible to a user (icol. 8, lines 55-65, substantially invisible) the imperceptible modification adaptively changing values of the perceptible parts of the visual or audio signals by a varying amount that depends on the values of the perceptible parts (see fig. 1, which discloses steganographic materials e.g. DVD, Tape; fig. 13, which discloses reading output of CD-ROM decoder; col. 8, line 50-col. 9, line 15, which discloses that the provider 60 encodes ...signal 70 using steganographic technique that make the control information both substantially invisible and indelible ...inextricably intertwined with the television images and/or sound; col. 24, lines 35-65, which discloses modified digital control information is provided within the redistribution content signal, ...convert from analog to digital and vice versa);

within said intervening steganographic decoder process, detecting encoded source material transmitted thereby (fig. 13, extract steganographically encoded data; col. 5, lines 30-40, which discloses recover the steganographically-encoded control information from the information signal); and

crediting a payment in response to said detection of the encoded source material, in accordance with the plural-bit auxiliary data steganographically conveyed by

the encoded source material (col. 5, lines 30-40, which discloses enforcing rights ...based on the recovered steganographically encoded control information; col. 6, lines 1-15, which discloses automatic electronic payment; col. 22, lines 25-40, which discloses report usage and payment information...).

9. What Van Wie does not explicitly disclose is the use of the claim phrases perceptible and/or imperceptible to the user. However Van Wie made it clear that the signal or the encoded and embedded signal is substantially inextricably intertwined and integrated with the information signal such that the encoded signal is invisible to the user. Accordingly it would have been obvious to one of ordinary skill in the art to recognize these claims phrases to be equivalent to invisible encoded signal as described by Van Wie.

10. As per claim 2, Van Wie further discloses the method which includes decoding plural-bit auxiliary data only from source material that has first been tested to indicate the likely presence of such auxiliary data therein (col. 4, line40-col. 5, line 5; col. 6, lines 45-55, which discloses analyses an information signal to determine...).

11. As per claim 3, Van Wie further discloses the method which includes testing source material by reference to an encoding attribute that is supplemental to said encoded plural-bit auxiliary data (col. 6, lines 45-55, which discloses analyses an information signal to determine...).

Art Unit: 3621

12. As per **claim 4**, Van Wie further discloses the method in which said attribute is the presence of a characteristic signature signal conveyed by said source material (see fig. 7 and 9).

13. As per **claim 6**, Van Wie further discloses the method in which said transmitting includes distributing through a network of interconnected computers (fig. 1 and 5).

14. As per **claim 7**, Van Wie further discloses the method of reporting said detection to a location remote from detection (figs. 2 and 7); and crediting royalties based on detection (col. 22, lines 25-40, which discloses report usage and payment information...).

15. As per **claim 8**, Van Wie discloses a method comprising:

presenting audio source material to a consumer, the material being encoded steganographically to convey plural-bit auxiliary data the audio source material including an audio signal that is audible when output from the device, the audio signal including imperceptible modifications to embed the plural-bit auxiliary data that are imperceptible to the consumer, the imperceptible modifications changing values of audible parts of the audio signal (see fig. 1, which discloses steganographic materials e.g. DVD, Tape; fig. 13, which discloses reading output of CD-ROM decoder; col. 8, line 50-col. 9, line 15, which discloses that the provider 60 encodes ...signal 70 using steganographic technique that make the control information both substantially invisible and indelible

...inextricably intertwined with the television images and/or sound; col. 24, lines 35-65, which discloses modified digital control information is provided within the redistribution content signal, ...convert from analog to digital and vice versa);

decoding the audio source material that is presented to the consumer to decode the auxiliary data therefrom (fig. 1, decoding image on a DVD; fig. 4, steganographic decoding of image); and

using the plural-bit auxiliary data to retrieve information about the source material from a remote location (col. 22, lines 25-40, which discloses communicate over the network ...with other related entities such as clearinghouses and repositories).

16. What Van Wie does not explicitly disclose is the use of the claim phrases perceptible and/or imperceptible to the user. However Van Wie made it clear that the signal or the encoded and embedded signal is substantially inextricably intertwined and integrated with the information signal such that the encoded signal is invisible to the user. Accordingly it would have been obvious to one of ordinary skill in the art to recognize these claims phrases to be equivalent to invisible encoded signal as described by Van Wie.

17. As per claim 9, Van Wie further discloses the method that includes:

storing data indicating the audio source material(s) presented to the consumer (see claim 2, storing said converted portion);

generating a report based on the stored data, indicating the audio source material(s) presented to the consumer (col. 22, lines 25-40, which discloses report usage and payment information...).

18. As per **claim 12**, Van Wie further discloses the method that includes making said payment through the registry (col. 22, lines 25-40, which discloses report usage and payment information...).

19. As per **claim 13**, Van Wie further discloses the method in which the object is a work of authorship, and the encoding adds a generally imperceptible level of noise to the object as it is perceived by a consumer thereof (col. 6, lines 35-45, "noise").

20. As per **claim 14**, Van Wie further discloses the method in which the registry comprises a database accessible through the internet (col. 22, lines 25-40, which discloses communicate over the network such as internet ...with other related entities such as clearinghouses and repositories).

21. As per **claim 91**, Van Wie further discloses the method wherein the payment is credited for entertainment content provided to the user in response to processing at least a portion of the plural-bit data (col. 22, lines 25-40, which discloses report usage and payment information...).

22. As per **claim 92**, Van Wie further discloses the method wherein the entertainment content is different from the encoded source material and is provided from a location remote from the steganographic decoder (col. 22, lines 25-40, which discloses communicate over the network such as internet ...with other related entities such as clearinghouses and repositories).

23. As per **claim 93**, Van Wie further discloses the method wherein at least a portion of the plural bits are used to obtain an address of web site related to the audio source material, and at least a portion of the plural bits are used to identify the audio source material (col. 5, lines 55-65)

24. As per **claim 94**, Van Wie further discloses the method wherein the transaction comprises providing content related to the object to a user, and the payment comprises payment associated with providing the content related to the object to the user (col. 22, lines 25-40, which discloses report usage and payment information...)

25. **Claim 5**, is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Wie et al U.S. Patent No. 6,240,185 B1 in view of Mosses U.S. Patent No. 5,473,631.

26. As per **claim 5**, Daniele failed to explicitly disclose the method in which the signature signal is a repetitive noise burst signal.

Moses discloses the method in which the signature signal is a repetitive noise burst signal (col. 3, lines 40-64; col. 7, lines 32-56).

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the system of Van Wie and provide the method in which the signature signal is a repetitive noise burst signal in view of the teachings of Moses et al in order to show alternative method of detecting the data.

27. **Claim 10**, is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Wie U.S. Patent No. 6,240,185 B1 in view of Hamilton et al U.S. Patent No. 5,249,166.

28. As per **claim 10**, Van wie failed to explicitly disclose the method which includes detecting the presented audio source material with a microphone, and decoding the auxiliary data from a microphone output signal.

Hamilton et al discloses the method which includes detecting the presented audio source material with a microphone, and decoding the auxiliary data from a microphone output signal (col. 6, lines 37-60).

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the system of Van Wie and provide the method method which includes detecting the presented audio source material with a microphone, and decoding the auxiliary data from a microphone output signal in view of the teachings of Hamilton et al in order to show alternative method of detecting the data.

29. **Claims 26-29**, are rejected under 35 U.S.C. 102(e) as being anticipated by Daniele U.S. Patent No. 5,444,779.

30. As per **claim 26**, Van Wie discloses a method of altering music data to steganographically insert plural bits of watermark data therein, characterized by steganographically inserting at least a first group of said bits for benefit of an end-user of the music data by imperceptibly altering perceptible attributes of the music data, inserting a second group of bits different than the first for benefit of an artist whose music is encoded by said music data, inserting a third group of bits different than the first two for benefit of a distributor of the music data, and storing in a registry accessible to the end user an association between information about the music data and at least a portion of the plural-bits (col. 6, lines 39-67; col. 8, lines 20-40; col. 10, lines 1-20; ...an indication of author and publisher or copyright holder may be ascertained once the glyph code is decoded...)

31. As per **claim 28**, Daniel further discloses the method in which the second group of bits includes bits representing a unique identifier for the music data, permitting machine identification of the data and royalty credit to the artist (col. 10, lines 1-25).

32. **Claims 27, and 29**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Daniele U.S. Patent No. 5,444,779 in view of Hamilton et al U.S. Patent No. 5,249,166.

33. As per Claim 27, Daniele shows the method including storing in the registry an association between the first group of bits but does not expressly show an internet address of a web site accessible by end-users of the music data, the registry providing the web site address in response to receiving at least the first group of bits.

However these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. The detection of the encoding and payment of royalty would be performed the same regardless since the the internet is only a means of transferring the data and/or payment for the copyrighted material. Thus, this descriptive material will not distinguish the claimed invention from prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to transfer the information through the internet by representing the internet address with certain number of bits because such data does not functionally relate to the steps in the method or system claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

34. As per claim 29, Daniele failed to explicitly disclose the method in which the third group of bits represents usage restrictions to which audio appliances are responsive, thereby driving distribution of additional copies of the music data

Hamilton further discloses the method in which the third group of bits represents usage restrictions to which audio appliances are responsive, thereby driving distribution of additional copies of the music data (col. 6, lines 39-67).

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the system of Daniele and provide the method in which the third group of bits represents usage restrictions to which audio appliances are responsive, thereby driving distribution of additional copies of the music data in view of the teachings of Hamilton et al in order to ensure only authorized user have access to the data.

Response to Arguments

35. Applicant's arguments with respect to claims 1-14, and 91-94 have been considered but are moot in view of the new ground(s) of rejection. However with respect to claims 26-29, Applicant argues that Danielle does not provide any teachings regarding "imperceptibly altering audible attributes of the music signal."

In response, Examiner respectfully disagrees and submits that Danielle does disclose "imperceptibly altering audible attributes of the music signal" Danielle made it clear that the type of work includes prose, poetry or music as shown in the rejections (fig. 2 and 7; col. 7, lines 1-25). Thus Danielle does anticipate attributes of music.

Conclusion

36. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

37. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

38. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art ad are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Art Unit: 3621

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles C. Agwumezie whose number is **(571) 272-6838**. The examiner can normally be reached on Monday – Friday 8:00 am – 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Fischer can be reached on **(571) 272 – 6779**.

40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charlie C Agwumezie
Examiner, Art Unit 3621
April 8, 2008

/ANDREW J. FISCHER/
Supervisory Patent Examiner, Art Unit 3621

